



## X-ray Calibration Facility to Be Inducted in Hall of Fame

The Marshall Center's unique X-ray Calibration Facility has been selected for induction into the State of Alabama Engineering Hall of Fame for 1998 in the project category.

Recognized for its design and construction as a world-class facility for calibrating X-ray optics, the facility is the world's largest, most advanced laboratory for simulating x-ray emissions from distant celestial objects. It produces a space-like environment in which components related to x-ray telescope imaging are tested and the quality of their performance in space is predicted.

The calibration facility, which includes four buildings located over approximately a one-third square mile area, was most recently used for calibrating the mirrors and science instruments of the Advanced X-ray Astrophysics Facility (AXAF). The evaluation process used x-ray sources to measure the performance of the AXAF mirrors under controlled conditions, verifying that the telescope's mirrors function properly.

Calibration facility features include a massive instrument vacuum chamber that is thermally controlled and capable of simulating widely diverse temperatures within a vacuum. Its interior test volume measures 60 by 20 feet, large enough to hold anything that will fit in the Space Shuttle's cargo bay.

The Engineering Hall of Fame induction ceremony is scheduled for Feb. 21, 1998 in Tuscaloosa.

## Littles to be Featured on APTV's 'For the Record' Mon, 6:30 p.m.

"For the Record," a public affairs program distributed statewide on Alabama Public Television, will present an update on the Marshall Center and NASA next Monday at 6:30 p.m. Center Director Wayne Littles will be the featured guest for the 30-minute discussion show.

For the Record originates from the state network's studios in Montgomery, and the Monday evening program includes an opportunity for viewers who may have questions for the guest to ask them by telephone during the presentation.

The program is carried locally on WHIQ-TV, Channel 25 and will be rebroadcast at 11 p.m.

## Mayor to Speak at Equality Program

Huntsville Mayor Loretta Spencer will be the featured speaker at Marshall's Women's Equality Day Program on Aug. 26 at 9 a.m. in Morris Auditorium, Building 4200.

## NASA-Wide Travel Contract Promises Improved Services

In a NASA-wide effort aimed at making travel simpler for employees, NASA has for the first time employed the services of a single travel contractor agency wide.

American Express was awarded the contract and will begin providing travel services to the Marshall Center on Sept. 2.

"The change to a NASA-wide contractor will help support NASA better," said Ernest Graham, chief of the Transportation Office. "The improved services will make it easier for travelers visiting other centers."

As part of the transition, the Travel Office will be closed at noon on Aug. 29 for the transfer of travel records and installation of equipment, said Mary McClendon, Marshall's traffic manager and technical representative on the new contract.

"If reservations are made prior to noon on Aug. 29 and for travel through Sept. 3, tickets will be issued by Four Seasons, the current contractor," said McClendon. "Tickets for travel beginning after Sept. 3, and tickets for reservations made on or after Sept. 2, will be issued by American Express."

"In cases of emergency travel during the transition period," added McClendon, "ticketing will be done only when authorized

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## Scales Selected as Member of Chamber's Leadership Class

Charles Scales, Marshall's Deputy Director of Equal Opportunity, has been selected as a member of the 1997-98 Leadership Huntsville/Madison County class.



*Charles Scales*

Sponsored by the Huntsville/Madison County Chamber of Commerce, the purpose of the annual nine-month leadership program is to guide participants into active roles as community leaders by providing them with unique educational networking opportunities.

It also provides class members with an in-depth study of the various aspects of the local community. Monthly class days include field trips, tours, seminars and other activities designed to provide a deeper understanding and appreciation of concerns and issues within the community.

Scales joined the Marshall Center in 1973 as a cooperative education student and received a permanent appointment as a telecommunications specialist in 1975.

# 1997 Marshall Center Picnic Home Page Now On-Line

by Carole McLemore, Picnic Committee

The 1997 Marshall Picnic Home Page is on the Internet and can be accessed using the following address: <http://psinfo.pscni.nasa.gov:80/msfcpicnic/>. Information pertaining to sports activities, entertainment, special events and guests, games, meal tickets, and schedules can be easily accessed and will be continuously updated as details become available. Watch for announcements of exciting, new, "never been seen before" events for this year's Oct. 4 picnic. Here's just a hint of what's to come:

## Demonstrate Your Athletic Ability

Registration for the picnic volleyball tournament is now under way, so get your



teams together and let's play! The games will begin on Sept. 29 with the

championship games to be played on Oct. 4. Team captains need to submit their rosters by Sept. 19 to Dana Tipton/BF50 or Ketela White/GP40. Other sports activities will be forthcoming.

## March with Mickey and Minnie

The Children's Parade will blast-off the picnic morning in style! Bring the kids and march around the picnic grounds with everyone's favorite cartoon characters. Guest appearances include Mickey Mouse, Minnie Mouse, Winnie the Pooh, and Batman. Don't forget to bring cameras to have pictures taken with the "special guests" after the parade. Balloons and goodie bags will be given to children in the parade.

## Partnership Seals Deal for New Marshall-Developed Technology

by Bob Lessels, Technology Transfer Office

Digital data matrix technologies developed at the Marshall Center to identify the millions of parts that comprise Space Shuttles such as the "Endeavour" are helping to launch a new commercial endeavor.

Symbology Research Center, a partnership between CiMatrix Corp. of Massachusetts and NASA, began operations Aug. 5 in Huntsville to commercially market the new method of identifying products with invisible and virtually indestructible markings.

The laser-etched markings are seen as the next generation of product "bar codes," already familiar around the world. Traditional bar codes can only be used on paper or plastic packaging and are not tamper resistant. Digital data matrix codes are applied directly to the product. The markings can range from as small as four microns to as large as two square feet.

Donald Roxby, director of Symbology Research Center, reports interest in the new marking system from a broad range of commercial interests: "Everything from electronic parts to pharmaceuticals to livestock," he said. Roxby sees a growing need for an identification system that can be placed directly on a product while conforming to the product's shape, size, color and other properties. Paper bar coding, he said, will continue to have uses in many industries, but – where identification of a small part is essential or where the paper bar coding could deteriorate – digital data matrix technologies hold the solution. Roxby and his staff expect to handle up to 500 product marking problems each year. They also will be exploring ever more opportunities to use the new product coding system.

Working with Roxby has been NASA engineer Fred Schramm from the Marshall Center.

"NASA began using paper bar coding technologies in 1983,"

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Pat Costa (seated, left), president of Robotic Vision Systems, Inc., of New York, signs a Space Act Agreement between his firm and NASA to commercialize a digital data matrix technology originally developed at the Marshall Center. Joining Costa at the signing ceremony are (from left, seated) Sally Little, deputy manager of Marshall's Technology Transfer Office and Peter Crole, president of CiMatrix. Standing from left are Fred Schramm of the Technology Utilization Office, John West of the Technology Development and Investment Office (TDIO), Robotic Vision Executive Vice President Howard Stern, Bill Galloway of the TDIO, Donald Roxby, director of the CiMatrix Symbology Research Center, TDIO Manager Jerry Seemann, and William Baker, Robotics vice president for sales.

## Shuttle Discovery Lands After Successful 12-Day Mission

After spending an extra day in orbit, Discovery's astronauts glided to a smooth landing at the Kennedy Space Center Tuesday morning to wrap up a 12-day, 4.7 million mile mission designed to study the Earth's atmosphere and test technology for the International Space Station.

Commander Curt Brown set Discovery down on runway 33 at KSC's Shuttle Landing Facility at 6:08 a.m. CDT to wrap up the sixth Shuttle mission of the year and the 86th in Shuttle program history.

# Marshall Excess Property Offered at Public Auction

A public auction of surplus equipment from the Marshall Center will be held Aug. 23 at 9 a.m. at Bentley's of Alabama, a Huntsville auction house. About 70 semi-trailers of surplus goods from the Marshall Center will be auctioned at 125 Jordan Road in Chase Industrial Park.

The auction, which is Bentley's first for NASA, will include items such as computers, office furniture, milling machines for fabricating tools and mechanical parts, hydraulic presses for stamping out metal parts, and extruders for making rubber parts.

"We are pleased that we have this new capability," said J D Horne, Marshall's director of Management Operations. "In the past, our services contractor picked up excess property and stored it in on-site warehouses until the General Services Administration held a public auction. Now, Bentley's picks up excess property from user locations and delivers it to their warehouse, where it is readied for donation or sale. Therefore, we can now dispose of excess property more quickly."

"Having the contract auctioneer pick up the equipment and hold a public auction to sell it will also generate revenue and offset costs for the Center," Horne added.

"We expect this way to reduce cost and use less Center storage facilities," said Horne. "The proceeds from the sales should pay for the cost of having Bentley oversee the auction. Any leftover money will go back into the U.S. Treasury."

"Hopefully," added Horne, "other centers will join in and do their property disposal the same way."

Bentley's has screened items earmarked for donation to schools or charities, or to local or state governments.

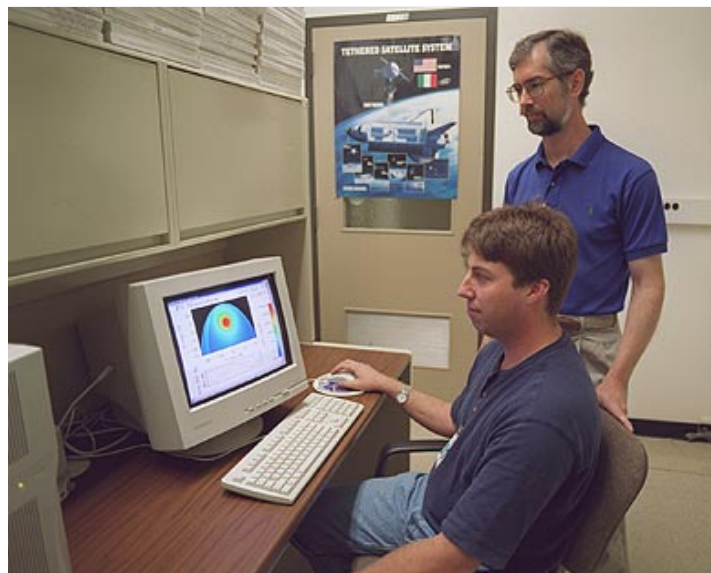
A catalog of featured items, with lot numbers, is scheduled to be published online Aug. 21 at <http://www.bentleysauction.com>.

## Marshall Post-POP Fish Fry Planned

To celebrate completion of this year's Program Operating Plan (POP), the Office of the Chief Financial Officer and the Shuttle Projects Office will host a Post-POP Fish Fry at 4:30 p.m. Aug. 21 at the Marshall Picnic Pavilion. Civil service and contractor employees are invited. The meal will include fish, hush puppies, baked beans, cole slaw and potato salad. Soft drinks, wine and beer will also be served. Tickets cost \$8 and may be purchased from administrative officers. For more information contact Rhonda Stricklin at 4-2361 or Jim Ellis at 4-0721.

## MMA Picnic, Meeting Planned

The Marshall Management Association's last meeting for 1997 will be a picnic on Aug. 28 at the Marshall Picnic area's west side pavilion. A social is scheduled for 5 p.m. with a barbeque dinner following at 5:30. Cost for the picnic is \$15 payable on that day. Those interested should respond to John Cather by Aug. 26.



*Dr. Daniel Ober of the University of Alabama in Huntsville works on his proposed research titled "The Global Circulation of Plasmaspheric Plasmas in the Magnetosphere" while his advisor, Dr. Dennis Gallager, ES83 looks on. Ober began a one-year tenure in the National Research Council Research Associateship program last month. He is working as a resident research associate in the space Sciences Laboratory.*

**Photo by Terry Leibold**

## Symbology Research Center

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Schramm said. "In 1986, the Marshall Center began examining the possibility of developing a paperless identification system. Problems had been experienced with the paper on which the code was imprinted separating from the part. When you consider the thousands and thousands of parts in something such as the Space Shuttle, this can be a huge problem. Another problem is the durability of paper bar codes. They cannot survive being placed on parts exposed to high heating, such as the thermal tiles on the orbiters during re-entry.

In 1991, Roxby said, NASA determined that converting to digital data matrix coding would save \$1 million a year on the orbiter fleet alone.

## NASA-Wide Travel Contract

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by the Transportation Office. Tickets issued by Four Seasons must be picked up before noon on Aug. 29. American Express will begin booking reservations on Sept. 2. In the meantime, Four Seasons will continue to make any reservations requested."

Travelers and travel arrangers are requested to attend a travel seminar presented by American Express on Aug. 25. The seminar will be held in Morris Auditorium from 1 to 2:30 p.m. Services that are included in the new contract will be highlighted.

## Obituaries

**Alvis Brown, 74**, Athens, died July 30. He retired from the Marshall Center in 1972.

**Harold Watson, 76**, Huntsville, died July 24. He retired from Marshall in 1982 where he worked as an engineering technician.



## Employee Ads

### Miscellaneous

- ★ CSA Ski exercise machine \$40; dehumidifier \$100 o.b.o.; TI-99 computer w/ voice synthesizer, games, cartridges \$25. 830-1445
- ★ Registered Sheltie puppies, two left. 757-5420
- ★ Complete girl's GSA brownie uniform, size 8-9 \$30. 722-9407
- ★ Bassett sleeper sofa with matching chair, two lamps, oak end table \$500 o.b.o. 722-9407
- ★ Wedding gown size 6, sequins, pearls, victorian neck, cathedral train, long sleeves and fingertip veil. 837-2783
- ★ Little Mountain resort membership on Guntersville Lake. Camping, cabins, fishing, swimming, boating etc. 881-0645
- ★ Go-Kart, needs new clutch & carburetor \$150. M-1 Garand Rifle, not an import \$650. 883-5543
- ★ Majestic fireplace insert screen with glass doors. Adjustable blower \$265. 883-1686
- ★ Bath bench, elderly \$60; feather pillows \$5 ea.; digital blood pressure cuff new \$30. 837-6776.
- ★ Recliner \$80. 837-9338
- ★ Model A formal tractor, negotiable. 232-8709
- ★ 1994 18' Hurricane boat trailer, 90 HP motor. 615-433-0369
- ★ Brass/beveled chandelier, 10 candles \$40; custom made window treatments, 35" wide \$30. 881-1559
- ★ Woman's Schwinn road bike, step thru 19" 10 speed \$90. 881-4028
- ★ Miscellaneous computer parts, 386 motherboard, 2400 modem, PGA monitor, etc. All for \$50. 464-9352
- ★ Pastel 6-piece baby comforter set by Quiltex with wall-hanging & curtain \$55. 882-9591
- ★ Metal bins, stackable, 15 x 20 inches, for storing nails, screws, etc., \$5 ea. 232-8709
- ★ Kenwood DP-M5550 CD player, 6-cartridge plus single with remote \$100. 536-6228
- ★ Room air cleaner replacement filters; envircare EV-1; prefilters and HEPA filter; new, half price. 772-0558
- ★ Dorm refrigerator, 2.5 cu. ft., \$70. 379-3606
- ★ 14.4 external modem PC \$20. 881-1559

### Vehicles

- ★ 1981 Honda CM400 motorcycle, custom with Vetter front end, 13K miles \$750 firm. 931-0351
- ★ 1982 Pontiac Bonneville, new battery, A/C, one owner \$850. 837-2405
- ★ 1990 Pontiac Grand-AM, 2-dr., LE, Quad-4-16V engine, automatic, alloy wheels, black, 91K miles \$3,950 o.b.o. 753-2278
- ★ 1989 Oldsmobile Touring Sedan, one owner, leather interior, \$6,750. 582-1344
- ★ 1993 Ford Probe SE, 84K miles, power everything, keyless entry, NADA \$10,500, sell \$8,000 o.b.o. 464-9957
- ★ 1990 Lincoln Continental Limited model \$4,000; 1991 Nissan Pickup, 83K miles, A/C, 4-speed, \$5,800. 230-3387
- ★ 1992 Dodge Caravan SE, automatic, 130K miles, full power, A/C, luggage rack, \$4,500. 852-0772
- ★ 1986 Ford Ranger pickup Supercab, bedliner, campershell \$3,000; 1987 Pontiac Bonneville, 55K miles \$3,500. 883-7627
- ★ 1996 Dodge Caravan, DSD solar glass, child protection seats, asking for payoff. 721-0078
- ★ 1993 GEO Prism LSI, 80K miles, teal exterior, grey interior \$8,000. 851-8188
- ★ 1979 TransAm \$2,000. 232-8709

### Wanted

- ★ CO2, BB or pellet rifle. 533-1816

## Center Announcements

- ☛ **Stop Abuse** — Aware of waste, fraud or abuse? Telephone the Marshall Office of Inspector General at 4-9188 or send complaints to Mail Stop M-DI. Confidentiality will be maintained.
- ☛ **Senior/NASA Day** — The EEO office is coordinating the High School Senior Day/ NASA Day at Alabama A&M on November 8 at 1:30 p.m. Asking for NASA and alumni volunteers from both A&M and Tuskegee to assist in giving the students and general public information about MSFC roles and missions. The game will feature A&M vs Tuskegee. For additional information contact Alice Sams at 4-0374 or Willie Love at 4-0088.
- ☛ **MOO** — The Management Operations

Office retirees will meet for breakfast/ lunch on August 28 (4th Thursday each month) at the Cracker Barrel in Madison at 10 a.m. In addition to retirees, all present or former MOO employees are welcome. Call 539-0042 if you have any questions.

☛ **MARS Volleyball Club** — There will be an organizational meeting August 21 in the all-purpose room of Bldg. 4752 for the 97 volleyball season. Eligible participants include NASA employees, their dependents and NASA retirees. Anyone interested in having a team should attend. If any questions, please call Jose Sanchez at 544-7620.

☛ **MESA** — The Marshall Engineers and Scientists Association, IFPTE Local 27, will be held August 21 at 11:30 a.m. in the MESA Office, Bldg. 4471, Rm. C105. Refreshments will be served and all members are invited.

## Job Opportunities

**CPP 97-80-JB, Security Assistant, GS-086-5/6**, (2 positions), Human Resources & Adm. Support Office, Management Operations Office, Security Division. Closes August 20, 1997.

**CPP 97-89-JB, Supply Systems Analyst, GS-2003-11**, Human Resources & Adm. Support Office, Management Operations Office, Property Management Division. Closes August 20, 1997.

**CPP 97-101-RE, Quality Assurance Specialist (Aerospace), GS-1910-12** (2 vacancies), Safety & Mission Assurance Office, Quality Assurance Office. Closes August 20, 1997.

**CPP 97-105-DC, AST, Aerospace Flight Systems, GS-861-14**, S&E, Space Transportation Systems Chief Engineer, Space Shuttle Solid Rocket Booster. Closes August 20, 1997.

**CPP 97-106-JB, Contract Specialist, GS-1102-5**, Procurement Office, Flight Systems & Operations Division. Closes August 22, 1997.

**CPP 97-99-TH, AST, Aerospace Flight Systems, GS-861-14**, S&E, Systems Analysis & Integration Lab., Technical Staff Office. Closes August 22, 1997.

**REASSIGNMENT BULLETIN: 97-15-JB, Program Analyst, GS-343-12**, Space Shuttle Projects Office, Systems Management & Integration Office. Closes August 25, 1997.

**CPP 97-110-CP, Secretary, GS-318-7/8**, Office of Chief Financial Officer. Closes August 25, 1997.

# MARSHALL STAR

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